

Maryland Violent Death Reporting System 2003—2009

Surveillance Report

Maryland Department of Health & Mental Hygiene

Maryland Resident Homicides, Suicides, and Deaths of Undetermined Manner

May 2012



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Introduction

Deaths attributed to violence in the United States are a major public health concern. As part of a public health campaign to address the burden of these potentially preventable deaths, a National Violent Death Reporting System (NVDRS) is creating opportunities to study and monitor the violent deaths occurring in our country. In 2000, Congress approved funding for the creation of NVDRS to be administered by the Centers for Disease Control and Prevention (CDC). The CDC is responsible for providing directives and guidance for states participating in the surveillance system.

Based on the World Health Organization's (WHO) definition, a violent death is "*a death resulting from the intentional use of physical force or power against oneself, another person, or against a group or community. The person using the force or power need only have intended to use force or power; they need not have intended to produce the consequence that actually occurred. "Physical force" should be interpreted broadly to include the use of poisons or drugs. The word "power" includes acts of neglect or omission by one person who has control over another*".¹ The NVDRS collects information on when, where, and how these violent deaths happen, and attempts to gather additional information that may provide population-level insight into "why" these deaths occur. These findings will aid in the design and implementation of prevention/intervention efforts as well as the promotion of comprehensive and effectual policy solutions.

Currently, the CDC is funding 18 states to implement the NVDRS. The Maryland Department of Health and Mental Hygiene, Center for Health Promotion, was awarded funding for the implementation of the Maryland Violent Death Reporting System (MVDRS) in 2002. The first year of data collected for the MVDRS was 2003.

This is a descriptive report on Maryland occurrent violent deaths during 2003 – 2009, inclusive of only Maryland residents. The report presents the information in four categories: all violent deaths, homicides, suicides, and undetermined deaths.

Methods

The NVDRS implements uniform definitions and project-specific software to create state-level databases that can be used to monitor and track trends of violent deaths. The database is structured to create separate observations for each individual death, aggregated within violent death incidents. Each incident has data that has been collected from a variety of sources, including death certificates, autopsy and scene inspection reports, and police reports. Under this arrangement, a single violent death incident must describe at least one violent death, but may associate multiple violent death victims.

The types of violent death described in this report include three categories specified by the NVDRS: Homicide, Suicide, and deaths of Undetermined Manner. The functional definitions for the following categories have been taken directly from the NVDRS Coding Manual version 3 (<http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/Fullmanual.pdf>).

Homicide:

Homicide is defined as a death resulting from the intentional use of force or power, threatened or actual, against another person, group, or community. A preponderance of evidence must indicate that the use of force was intentional.

¹ Center for Disease Control and Prevention, National Violent Death Reporting System Coding Manual, (Atlanta, GA 2004)

Suicide:

A death resulting from the intentional use of force against oneself. A preponderance of evidence should indicate that the use of force was intentional.

Undetermined Manner of Death:

A death resulting from the use of force or power against oneself or another person for which the evidence indicating one manner of death is no more compelling than the evidence indicating another manner of death.

The data for the MVDRS were obtained from the medical examiner's records, death certificates, police reports, and some supplemental homicide reports. Data collection began with the electronic import of death certificates from the Maryland Vital Statistics Administration whose International Classification of Disease, Tenth Revision (ICD-10) code cause of death was consistent with the definition of violent death set forth by the CDC. A similar query was provided by the Office of the Chief Medical Examiner (OCME), based on the OCME-determined manner of death. These lists were reconciled, employing the CDC-prescribed functional definition of violent death whenever necessary. The information was then gathered from the documents in accordance with the CDC's National project.

For those incidents that did not have a police report available in the OCME file, the individual police agencies were contacted and the needed reports sought. An abstractor reviewed these reports in the same fashion as the OCME files were reviewed. Once all obtainable information was entered for each incident and internal quality control exercises were completed to ensure the integrity of the database, the data were determined ready for interpretation.

Data for this publication were taken from one or a combination of these sources depending on which source had been given primacy for a particular variable. Whenever conflicting or missing documentation was present between sources, a system of document authoritative primacy allowed the analyst to choose the document source for a particular item of information in a disciplined, orderly fashion. Using this method to retrieve data allowed analysis of the most complete information available from the database. The order of primacy is different for each variable. The directive for primacy is found in the NVDRS Coding Manual.

MVDRS data collection is unique in its ability to capture circumstances surrounding a violent death from reports by the OCME and / or the police report. Each of the circumstances captured by MVDRS have been defined by the CDC and these definitions can be found in the NVDRS Coding Manual version 3 (<http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/Fullmanual.pdf>). The **Appendix** contains the CDC definitions for some of the more common precipitating circumstances found in this report.

Case assignment for this analysis was based on the manner of death reported by the abstractor assigned death type. For this reason, frequency numbers for cases may differ slightly from those found in violent death figures published by the Vital Statistics Administration or in other MVDRS reports which use the ICD-10 code definition. The statistical software for analysis was SAS version 9.2. Rates for 2003 - 2009 were calculated using the population data from the Maryland Annual Vital Statistics Report.²

² <http://www.dhmd.state.md.us/vsa/SitePages/Home.aspx>

Section 1: Overview of Maryland Resident Violent Deaths, 2003 - 2009

Between 2003 and 2009, MVDRS reported a total of 11,491 violent deaths among Maryland residents. Figure 1 displays the trend in violent death rates over the past seven years, by manner of death. Of all the resident violent deaths between 2003 and 2009, deaths of undetermined manner were 40.7%, followed by suicides (29.2%) and homicides (28.8%) [Table 1]. Violent deaths of undetermined manner (n=4,676) accounted for the highest crude death rate at 11.9 per 100,000 population, followed by suicides (n=3,350) at 8.6 per 100,000 population and homicides (n=3,313) at 8.5 per 100,000 population [Table 1]. The 20-24 age group had the highest age-specific death rate (54.8 per 100,000) followed by the 25-29 age group (47.6 per 100,000) [Table 1]. Although over half of all violent deaths occurred among whites (56.5%), the death rate among blacks was 1.6 times higher than whites (40.8 vs. 25.7 per 100,000 population, respectively) [Table 1]. Males had a violent death rate 3.8 times that of females (47.3 vs. 12.6 per 100,000 population, respectively) [Table 1]. Males in the age group 20-24 had a violent death rate 6.9 times that of females (47.9 vs. 6.9 per 100,000 population, respectively) [Figure 2]. Baltimore City had the highest crude death rate at 82.1 per 100,000 population which was 6.5 times that of Montgomery County, which had the lowest rate (12.7 per 100,000 population) [Table 2]. The most common method of injury was poisoning (42.3%), followed by firearms (36.3%). 8.6% of the deaths were by hanging / strangulation / suffocation.

Figure 1: Trends in Violent Death Rates among Maryland Residents, by Manner of Death, 2003-2009

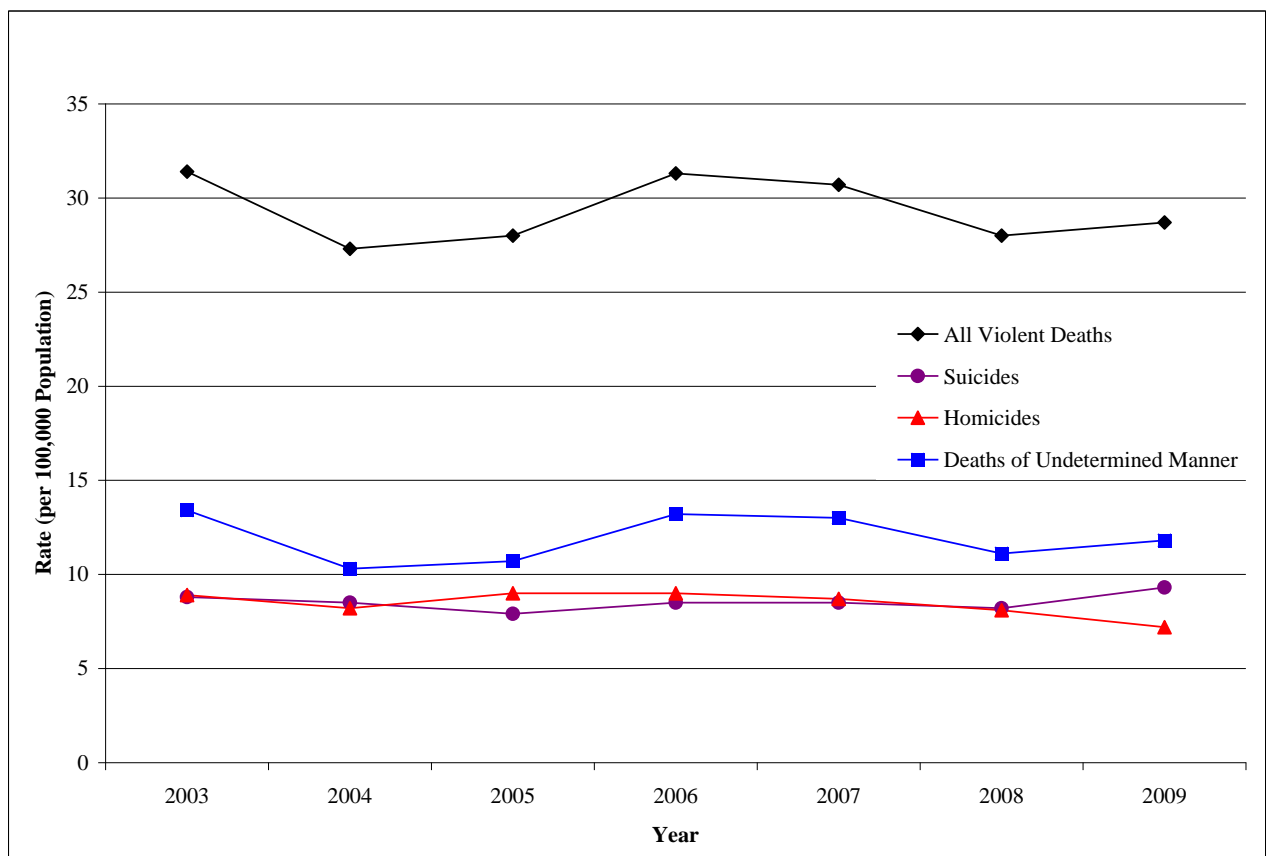


Table 1: Maryland Resident Violent Deaths (Demographics), 2003-2009

	N	Percent	Population	Rate per 100,000
All Violent Deaths	11,491	100	39,163,782	29.3
Year				
2003-2009	11,491	100	39,163,782	29.3
2003	1,727	100	5,495,009	31.4
2004	1,513	100	5,538,989	27.3
2005	1,560	100	5,575,552	28.0
2006	1,751	100	5,602,258	31.3
2007	1,726	100	5,618,899	30.7
2008	1,577	100	5,633,597	28.0
2009	1,637	100	5,699,478	28.7
Intent				
Homicides	3,313	28.8	39,163,782	8.5
Suicides	3,350	29.2	39,163,782	8.6
Deaths of Undetermined Manner	4,676	40.7	39,163,782	11.9
Unintentional Self-inflicted	17	0.2	39,163,782	*
Legal Intervention	135	1.2	39,163,782	0.3
Sex				
Male	8,953	77.9	18,942,446	47.3
Female	2,538	22.1	20,221,336	12.6
Age Group (years)				
0-<10	115	1.0	5,148,505	2.2
10-14	76	0.7	2,708,202	2.8
15-19	723	6.3	2,799,419	25.8
20-24	1,414	12.3	2,578,196	54.8
25-29	1,209	10.5	2,541,481	47.6
30-34	1,032	9.0	2,561,388	40.3
35-44	2,669	23.2	6,024,485	44.3
45-54	2,530	22.0	5,969,718	42.4
55-64	969	8.4	4,240,102	22.9
65-74	366	3.2	2,437,139	15.0
75-84	281	2.5	1,565,353	18.0
>=85	105	0.9	589,794	17.8
Unknown	2	0.02	---	---
Race				
White	6,496	56.5	25,312,601	25.7
Black	4,760	41.4	11,664,418	40.8
Other	233	2.0	2,186,763	10.7
Unknown	2	0.02	---	---
Ethnicity				
Hispanic	279	2.4	2,389,211	11.7
Unknown	22	0.2	---	---

*Rates were not calculated for counts < 20 because they are considered unstable.

Figure 2: Maryland Violent Death Rates by Age Group and Sex, 2003-2009

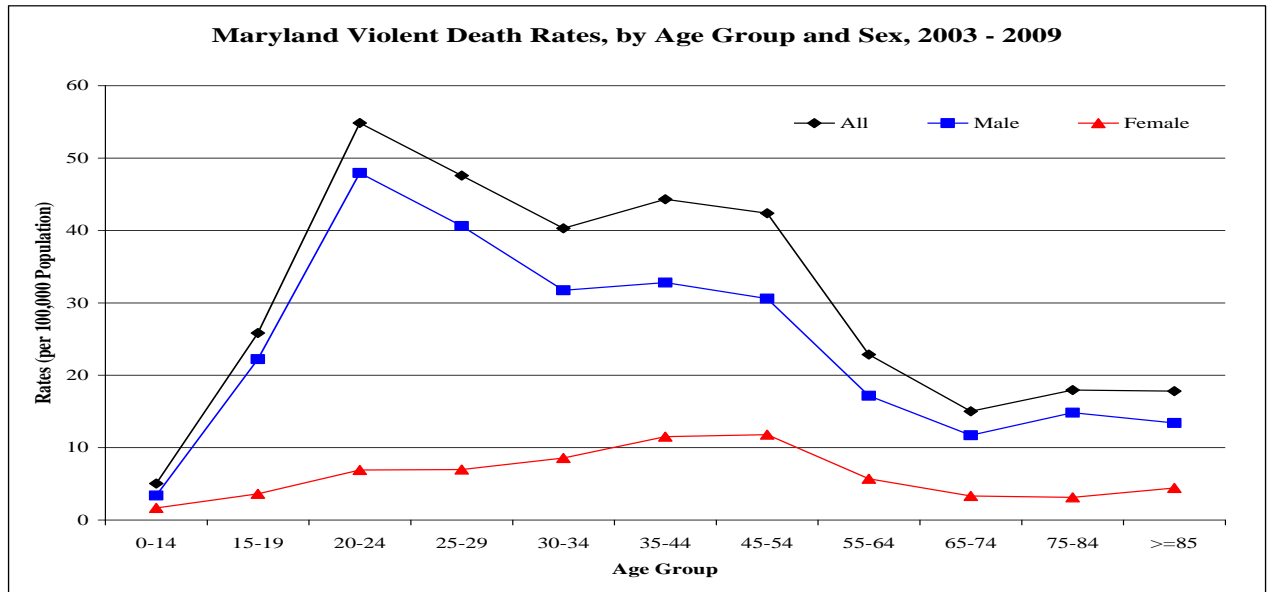
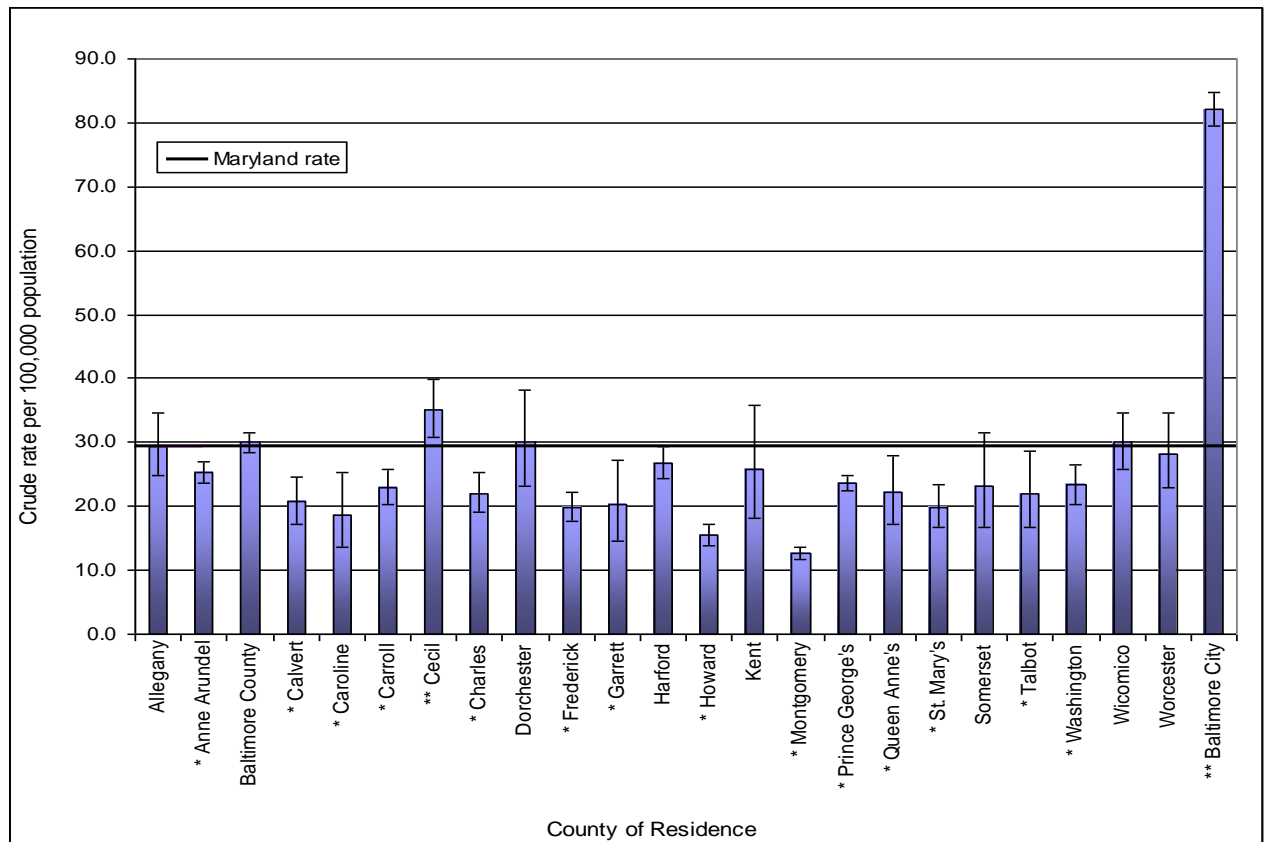


Figure 3. Violent Death Rates among Maryland Residents by County of Residence, 2003-2009



* Counties with violent death rates statistically significantly lower than the Maryland average.

** Counties with violent death rates statistically significantly higher than the Maryland average.

I Error bars indicate 95% confidence interval. These indicate the level of uncertainty about each value on the graph. Longer/wider intervals mean more uncertainty.

Section 2: Maryland Resident Homicides, 2003-2009

Highlighted Findings

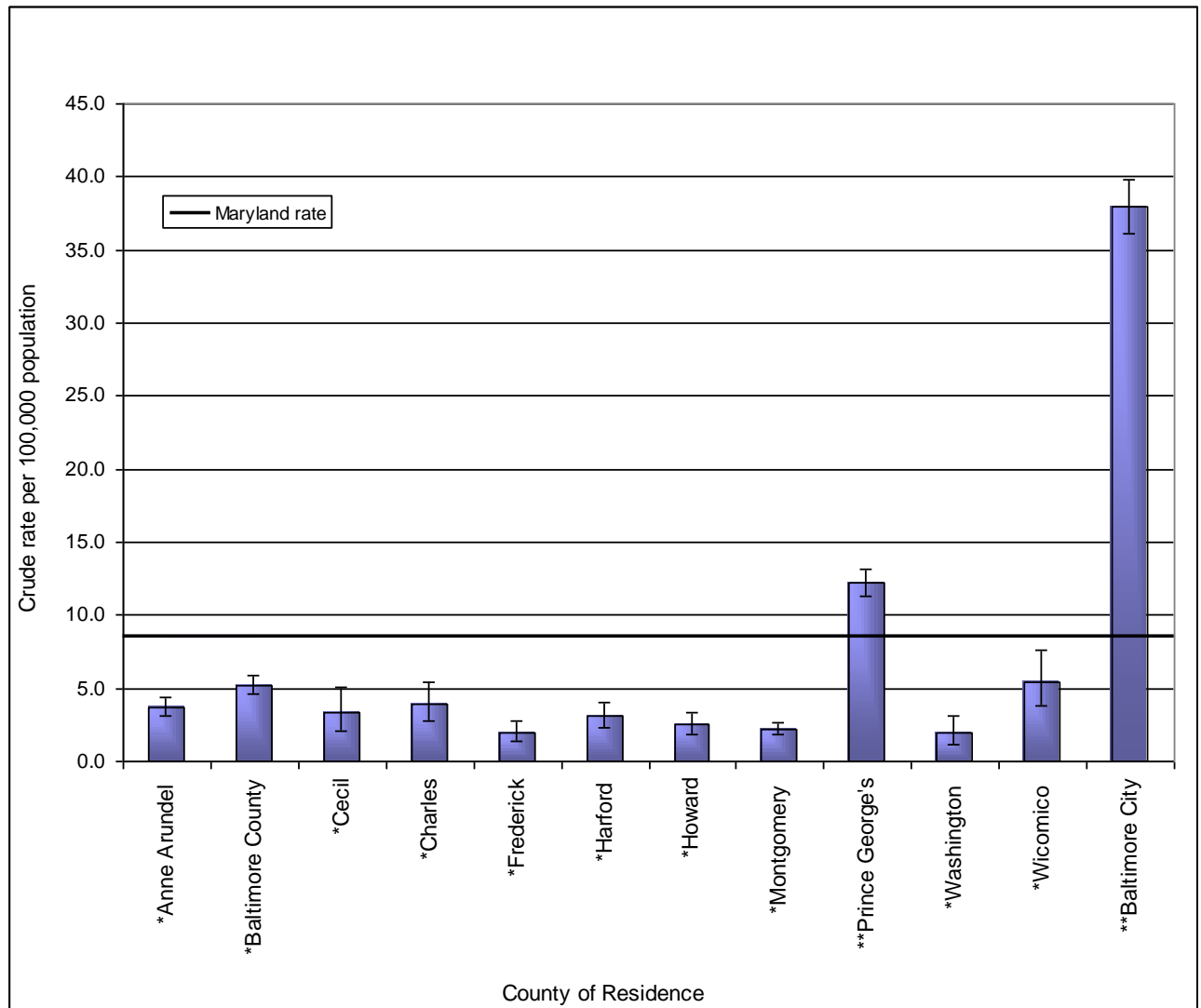
- Between 2003 and 2009, MVDRS reported 3,313 homicides among Maryland residents of which more than half were among Baltimore City residents (51.3%). [Tables 3 & 4]
- The homicide rate for males was 5.9 times that for females (14.8 and 2.5 per 100,000 population, respectively). [Table 3]
- Blacks accounted for the majority of homicide deaths (78.5%) and the homicide rate for blacks was 8.9 times that for whites (22.3 and 2.5 per 100,000 population, respectively). [Table 3]
- Baltimore City had the highest homicide rate at 37.9 per 100,000 population followed by Prince George's County residents at 12.2 per 100,000 population. [Table 4]
- Over two thirds of all the homicides occurred in the street / road, sidewalk / alley (39.4%) and the house / apartment (31.8%). [Table 5]
- The most common method of injury for all homicides was firearms (72.5%). [Table 6]

Table 2: Homicides among Maryland Residents (Demographics), 2003-2009

	N	Percent	Population	Rate per 100,000
All Homicide Deaths	3,313	100	39,163,782	8.5
Sex				
Male	2,806	84.7	18,942,446	14.8
Female	507	15.3	20,221,336	2.5
Age Group (years)				
0-<10	90	207	5,148,505	1.8
10-14	37	1.1	2,708,202	1.4
15-19	463	14.0	2,799,419	16.5
20-24	773	23.3	2,578,196	30.0
25-29	555	16.8	2,541,481	21.8
30-34	366	11.1	2,561,388	14.3
35-44	534	16.1	6,024,485	8.9
45-54	302	9.1	5,969,718	5.1
55-64	109	3.3	4,240,102	2.6
65-74	49	1.5	2,437,139	2.0
75-84	26	0.8	1,565,353	1.7
>=85	9	0.3	589,794	*
Race				
White	642	19.4	25,312,601	2.5
Black	2,602	78.5	11,664,418	22.3
Other	68	2.1	2,186,763	3.1
Unknown	1	0.03	---	
Ethnicity				
Hispanic	161	4.9	2,389,211	6.7
Education				
<=8 years	309	9.3	--	--
9-12 years	2,439	73.6	--	--
13-16 years	428	12.9	--	--
>=17 years	42	1.3	--	--
Unknown	95	2.9	--	--

*Rates are not calculated for counts < 20 because they are considered unstable.

Figure 4: Homicide Death Rates among Maryland Residents by County of Residence, 2003-2009



* Counties with homicide death rates statistically significantly lower than the Maryland average.

** Counties with homicide death rates statistically significantly higher than the Maryland average.

I Error bars indicate 95% confidence interval. These indicate the level of uncertainty about each value on the graph. Longer/wider intervals mean more uncertainty.

Note: Rates are not calculated for counts < 20 because they are considered unstable.

Figure 5. Top Five Locations of Maryland Homicides, 2003-2009 (n = 2,935)

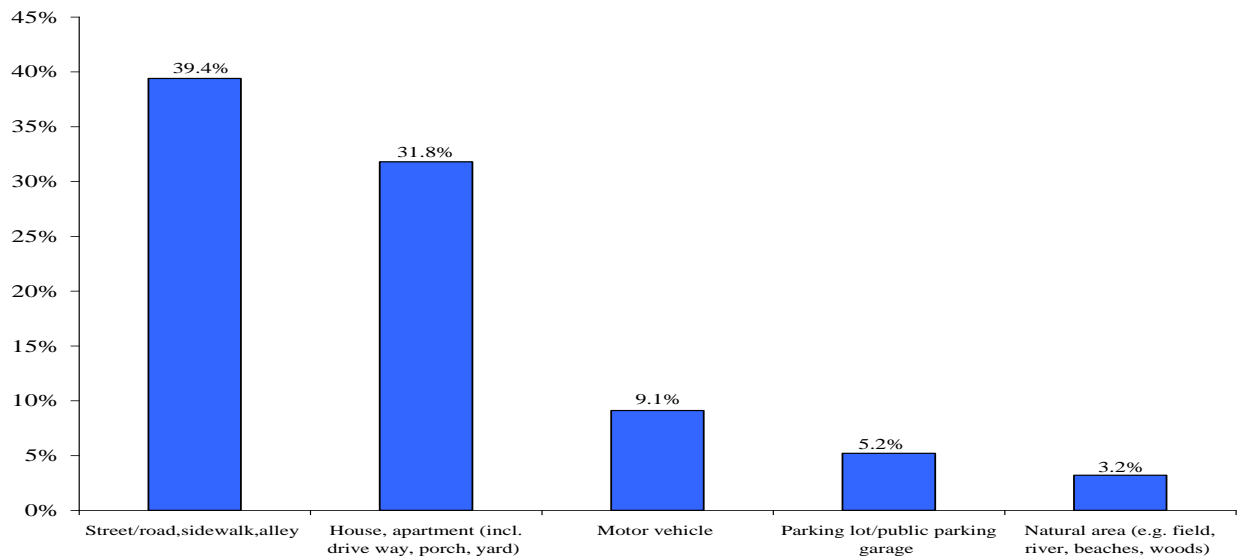
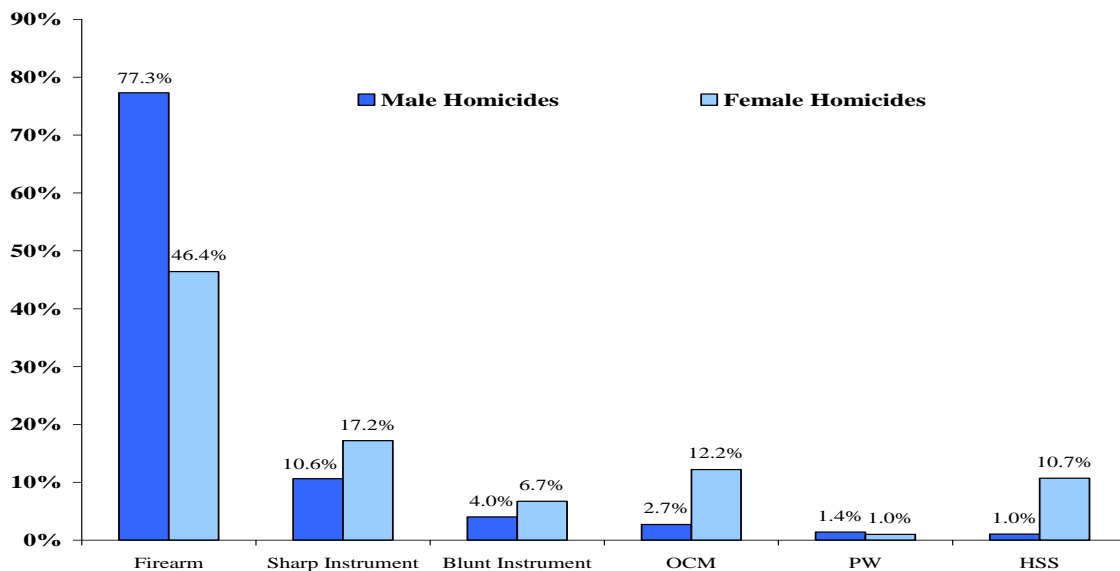


Table 3. Top Five Methods of Maryland Homicides, 2003-2009 (n = 3,155)

Top 5 Methods of Injury	N	Percent
Firearm	2,403	72.5
Sharp Instrument	385	11.6
Blunt Instrument	147	4.4
Other Combination of methods	137	4.1
Hanging/Strangulation/Suffocation	83	2.5

Figure 6. Distribution of Top Methods of Maryland Homicides, 2003-2009, by Gender



OCM = Other Combination of Methods; PW = Personal Weapons (hands, feet, or fists);
HSS = Hanging / Strangulation / Suffocation

Table 4: Homicide Characteristics among Maryland Residents, 2003-2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Homicide Deaths	3,313	100	2,806	100	507	100
EMS at the Scene						
Yes	2,917	88.1	2,516	89.7	401	79.1
Homeless						
Yes	41	1.2	31	1.1	10	2.0
Veteran Status						
Yes	170	5.1	160	5.7	10	2.0
Victim in Custody when Injured						
Yes, in jail or prison	29	0.9	28	1.0	1	0.2
Month of Injury						
January	295	8.9	239	8.5	56	11.1
February	225	6.8	188	6.7	37	7.3
March	257	7.8	211	7.5	46	9.1
April	254	7.7	217	7.7	37	7.3
May	308	9.3	255	9.1	53	10.5
June	287	8.7	240	8.6	47	9.3
July	316	9.5	281	10.0	35	6.9
August	256	7.7	220	7.8	36	7.1
September	285	8.6	228	8.1	57	11.2
October	271	8.2	244	8.7	27	5.3
November	280	8.5	242	8.6	38	7.5
December	269	8.1	233	8.3	36	7.1
Unknown	10	0.3	8	0.3	2	0.4
Weekday of Injury						
Monday	528	15.9	467	16.6	61	12.0
Tuesday	425	12.8	358	12.8	67	13.2
Wednesday	449	13.6	370	13.2	79	15.6
Thursday	415	12.5	358	12.8	57	11.2
Friday	393	11.9	324	11.6	69	13.6
Saturday	439	13.3	384	13.7	55	10.9
Sunday	506	15.3	447	15.9	59	11.6
Unknown	158	4.8	98	3.5	60	11.8
Time of Injury						
Night (18:00 – 5:59)	1,882	56.8	1,701	60.6	181	35.7
Daytime (6:00 – 17:59)	811	24.5	664	23.7	147	29.0
Unknown	620	18.7	441	15.7	179	35.3

Table 5: Number and Percent of Homicide Victims tested for Alcohol and Drugs among Maryland Residents, 2003-2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Homicide Deaths	3,313	100	2,806	100	507	100
Alcohol Testing						
Tested for Alcohol	3,235	98.5	2,739	98.6	496	98.2
Of those tested, positive for Alcohol	1,044	32.3	934	34.1	110	22.2
Of those positive for the presence of alcohol, BAC (mg/dL) levels						
>0-<0.08	524	50.3	456	48.9	68	61.8
0.08 - < 0.16	289	27.7	261	28.0	28	25.5
0.16 - < 0.24	146	14.0	136	14.6	10	9.1
>= 0.24	83	8.0	79	8.5	4	3.6
Drug Test Results						
Amphetamine Testing						
Tested for Amphetamines	3,222	98.1	2,722	98.0	500	99.0
Of those tested, positive for Amphetamines	119	3.7	113	4.2	6	1.2
Antidepressant Testing						
Tested for Antidepressants	3,221	98.1	2,722	98.0	499	98.8
Of those tested, positive for Antidepressants	57	1.8	36	1.3	21	4.2
Cocaine Testing						
Tested for Cocaine	3,219	98.1	2,721	98.0	498	98.6
Of those tested, positive for Cocaine	352	10.9	287	10.6	65	13.1
Opiate Testing						
Tested for Opiates	3,215	97.9	2,716	97.7	499	98.8
Of those tested, positive for Opiates	311	9.7	257	9.5	54	10.8
Testing for Other Drug(s)						
Tested for other drug(s)	3,220	98.1	2,721	98.0	499	98.8
Of those tested, positive for other drug(s)	703	21.8	588	21.6	115	23.1

Table 6: Associated Circumstances surrounding Homicides among Maryland Residents, 2003-2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Homicide Deaths	3,313	100	2,806	100	507	100
Unknown	1,771	53.5	1,562	55.7	209	41.2
Known*:	1,542	46.5	1,244	44.3	298	58.8
-Crime-related						
Precipitated by another crime	465	30.2	398	32.0	67	22.5
Crime in progress	348	22.6	301	24.2	47	15.8
Drug involvement	306	19.8	281	22.6	25	8.4
Gang related	35	2.3	35	2.8	0	0
Hate Crime	2	0.1	2	0.2	0	0
Brawl	76	4.9	71	5.7	5	1.7
Victim was a bystander	20	1.3	14	1.1	6	2.0
Drive-by shooting	50	3.2	46	3.7	4	1.3
Relationship Problem						
Intimate partner problem	24	1.6	9	0.7	15	5.0
Other relationship problem	4	0.3	1	0.1	3	1.0
-Arguments and Conflicts						
Argument over money or property	97	6.3	80	6.4	17	5.7
Jealousy	54	3.5	38	3.1	16	5.4
Intimate partner violence related	193	12.5	50	4.0	143	48.0
Other argument, abuse or conflict	506	32.8	437	35.1	69	23.2
Perpetrator of interpersonal violence in the past month	9	0.6	7	0.6	2	0.7
Victim of interpersonal violence in the past month	3	0.2	2	0.2	1	0.3
-Other						
Justifiable self-defense / law enforcement	24	1.6	23	1.9	1	0.3
Victim used weapon	55	3.6	53	4.3	2	0.7
Victim was intervener assisting crime victim	18	1.2	15	1.2	3	1.0
Mentally ill suspect	8	0.5	7	0.6	1	0.3

*Total percentages might exceed 100% because one incident might have multiple circumstances.

Highlighted Findings of the Associated Circumstances

There were known circumstances in 46.5% of the homicides. Of these known circumstances:

- 30.2% were precipitated by another crime and 32.8% were related to other arguments, conflicts or abuse.
- 48% of the female homicides were intimate partner violence related, compared to 4% of the male homicides.
- 22.6% of the male homicides had some drug involvement, compared to 8.4% of the female homicides.

Section 3: Maryland Resident Suicides, 2003-2009

Highlighted Findings

- Between 2003 and 2009, MVDRS reported 3,350 suicides among Maryland residents (rate of 8.6 per 100,000). [Table 10]
- Male suicide rates were 4.3 times that of female rates (14.1 and 3.3 per 100,000 population, respectively). [Table 10]
- Age-specific suicide rates were highest among persons aged 75-84 (14.8 per 100,000 population) and followed by the 85+ age group (14.6 per 100,000 population). [Table 10]
- The suicide rate among whites was 2.5 times that of blacks (10.8 vs. 4.3 per 100,000, respectively). [Table 10]
- The suicide rate was highest among residents of Kent County (17.3 per 100,000) followed by Cecil County residents (13.8 per 100,000 population). [Table 11]
- Close to three-fourths of all the suicides occurred in the House, apartment (incl. drive way, porch, yard). [Table 12]
- Firearms were used in the majority of suicide deaths (48%) followed by hanging /strangulation /suffocation (26.7%) and poisoning (14.8%). [Table 13]
- Among all the male suicides, 25.2% were veterans. [Table 14]

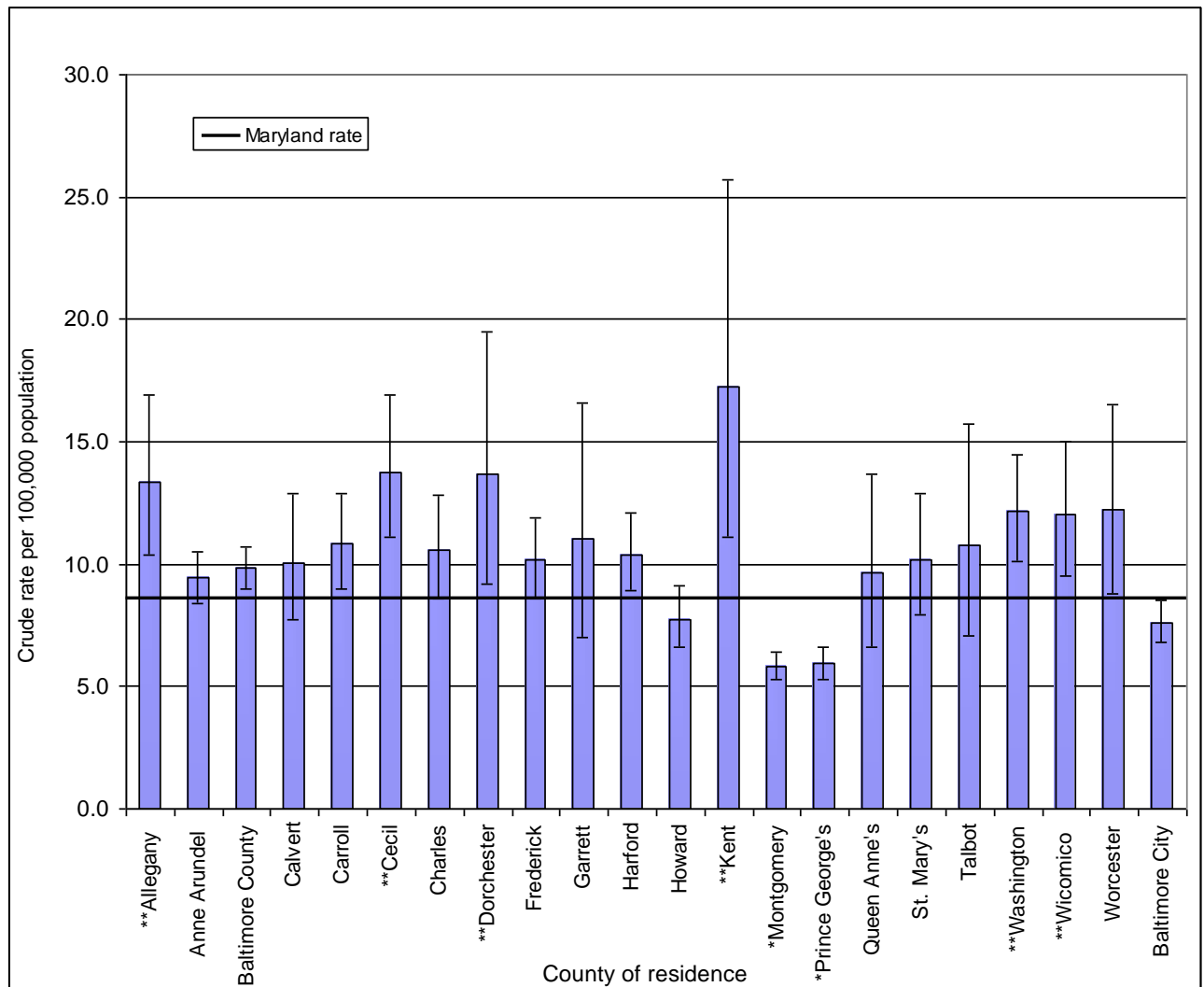
Table 7: Suicides among Maryland Residents (Demographics), 2003-2009

	N	Percent	Population	Rate per 100,000
All Suicide Deaths	3,350	100	39,163,782	8.6
Sex				
Male	2,678	79.9	18,942,446	14.1
Female	672	20.1	20,221,336	3.3
Age Group (years)				
0-<10	*	0.0	5,148,505	**
10-14	29	0.9	2,708,202	1.1
15-19	150	4.5	2,799,419	5.4
20-24	282	8.4	2,578,196	10.9
25-29	245	7.3	2,541,481	9.6
30-34	259	7.7	2,561,388	10.1
35-44	641	19.1	6,024,485	10.6
45-54	739	22.1	5,969,718	12.4
55-64	431	12.9	4,240,102	10.2
65-74	255	7.6	2,437,139	10.5
75-84	232	6.9	1,565,353	14.8
>=85	86	2.6	589,794	14.6
Race				
White	2,723	81.3	25,312,601	10.8
Black	499	14.9	11,664,418	4.3
Other	128	3.8	2,186,763	5.9
Ethnicity				
Hispanic	62	1.9	2,389,211	2.6
Education				
<=8 years	179	5.3	--	--
9-12 years	1,857	55.4	--	--
13-16 years	960	28.7	--	--
>=17 years	280	8.4	--	--
Unknown	74	2.2	--	--

*Counts less than 6 are not reported.

**Rates are not calculated for counts < 20 because they are considered unstable.

Figure 7: Suicide Death Rates among Maryland Residents by County of Residence, 2003-2009



* Counties with suicide death rates statistically significantly lower than the Maryland average.

** Counties with suicide death rates statistically significantly higher than the Maryland average.

I Error bars indicate 95% confidence interval. These indicate the level of uncertainty about each value on the graph. Longer/wider intervals mean more uncertainty.

Note: Rates are not calculated for counts < 20 because they are considered unstable.

Figure 8: Top Five Locations of Maryland Suicides, 2003-2009 (n = 3,014)

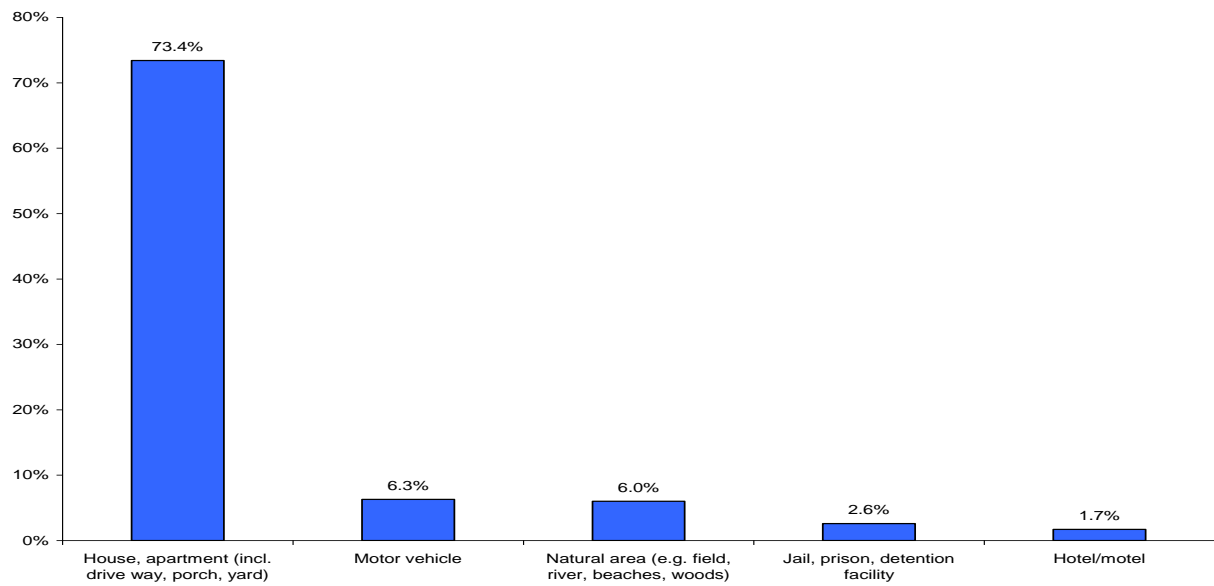


Table 8: Top Five Methods of Maryland Suicides, 2003 – 2009

Top 5 Methods of Injury	N	Percent
Firearm	1,607	48.0
Hanging/Strangulation/Suffocation	895	26.7
Poisoning	497	14.8
Fall	101	3.0
Sharp Instrument	75	2.2

Figure 9. Distribution of Top Methods of Maryland Suicides, by Gender, 2003-2009

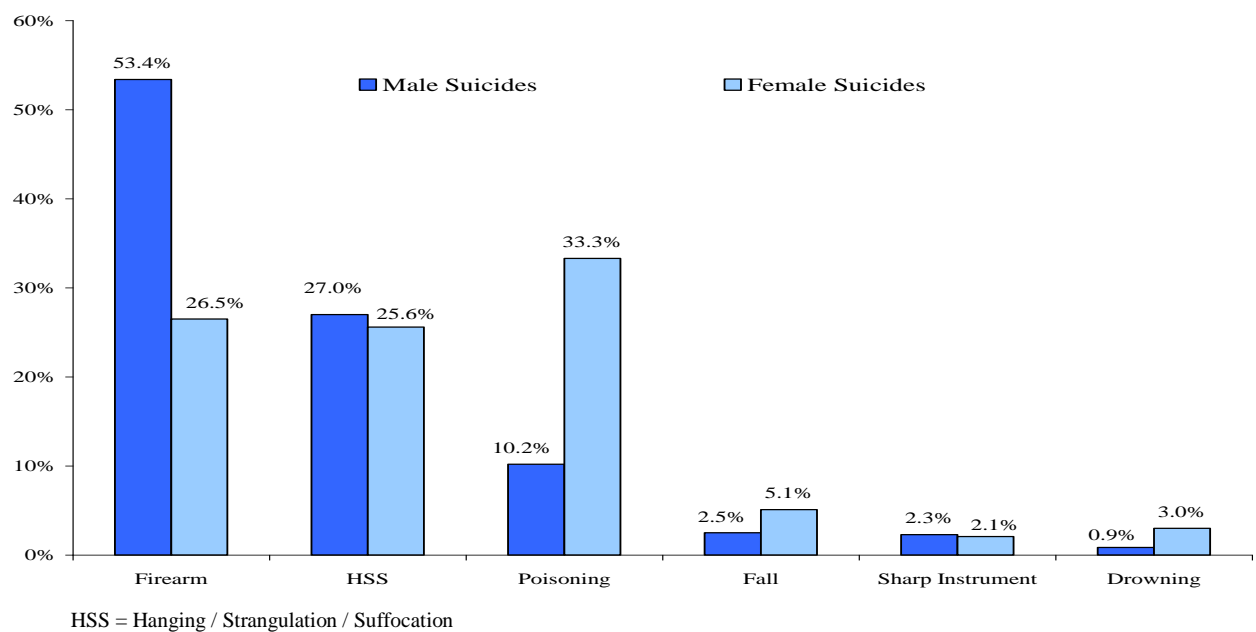


Table 9: Suicide Characteristics among Maryland Residents, 2003-2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Suicide Deaths	3,350	100	2,678	100	672	100
EMS at the Scene						
Yes	2,583	77.1	2,048	76.5	535	79.6
Homeless						
Yes	31	0.9	27	1.0	4	0.6
Veteran Status						
Yes	694	20.7	674	25.2	20	3.0
Victim in Custody when Injured						
Yes, in jail or prison	81	2.4	72	2.7	9	1.3
Month of Injury						
January	296	8.8	236	8.8	60	8.9
February	233	7.0	197	7.4	36	5.4
March	263	7.9	219	8.2	44	6.6
April	289	8.6	230	8.6	59	8.8
May	305	9.1	230	8.6	75	11.2
June	284	8.5	224	8.4	60	8.9
July	281	8.4	238	8.9	43	6.4
August	287	8.6	229	8.6	58	8.6
September	262	7.8	212	7.9	50	7.4
October	272	8.1	209	7.8	63	9.4
November	287	8.6	230	8.6	57	8.5
December	290	8.7	223	8.3	67	10.0
Unknown	1	0.03	1	0.04	0	0
Weekday of Injury						
Monday	435	13.0	353	13.2	82	12.2
Tuesday	442	13.2	358	13.4	84	12.5
Wednesday	456	13.6	373	13.9	83	12.4
Thursday	434	13.0	333	12.4	101	15.0
Friday	421	12.6	336	12.6	85	12.7
Saturday	392	11.7	314	11.7	78	11.6
Sunday	420	12.5	339	12.7	81	12.1
Unknown	350	10.5	272	10.2	78	11.6
Time of Injury						
Night (18:00 – 5:59)	756	22.6	620	23.2	136	20.2
Daytime (6:00 – 17:59)	1,293	38.6	1,038	38.8	255	38.0
Unknown	1,301	38.8	1,020	38.1	281	41.8

Table 10: Number and Percent of Suicide Victims tested for Alcohol and Drugs among Maryland Residents, 2003-2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Suicide Deaths	3,313	100	2,806	100	507	100
Alcohol Testing						
Tested for Alcohol	2,749	83.0	2,196	82.9	553	83.3
Of those tested, positive for Alcohol	918	33.4	767	34.9	151	27.3
Of those positive for the presence of alcohol, BAC (mg/dL) levels						
>0-<0.08	415	45.4	348	45.6	67	44.4
0.08 - < 0.16	219	23.9	184	24.1	35	23.2
0.16 - < 0.24	167	18.3	142	18.6	25	16.6
>= 0.24	114	12.5	90	11.8	24	15.9
Drug Test Results						
Amphetamine Testing						
Tested for Amphetamines	2,506	75.6	1,983	74.8	523	78.8
Of those tested, positive for Amphetamines	25	1.0	15	0.8	10	1.9
Antidepressant Testing						
Tested for Antidepressants	2,498	75.4	1,976	74.6	522	78.6
Of those tested, positive for Antidepressants	499	20.0	325	16.5	174	33.3
Cocaine Testing						
Tested for Cocaine	2,498	75.4	1,977	74.6	521	78.5
Of those tested, positive for Cocaine	186	7.5	160	8.1	26	5.0
Opiate Testing						
Tested for Opiates	2,495	75.3	1,973	74.5	522	78.6
Of those tested, positive for Opiates	368	14.8	244	12.4	124	23.8
Testing for Other Drug(s)						
Tested for other drug(s)	2,501	75.5	1,976	74.6	525	79.1
Of those tested, positive for other drug(s)	971	38.8	660	33.4	311	59.2

Table 11: Associated Circumstances surrounding Suicides among Maryland Residents, 2003-2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Suicide Deaths	3,350	100	2,678	100	672	100
Unknown	232	6.9	202	7.5	30	4.5
Known*:	3,118	93.1	2,476	92.5	642	95.5
-Mental health and substance abuse						
Current depressed mood	929	29.8	753	30.4	176	27.4
Current mental health problem	1,530	49.1	1,087	43.9	443	69.0
Current mental health treatment	906	29.1	596	24.1	310	48.3
History of mental health treatment	1,499	48.1	1,060	42.8	439	68.4
Alcohol problem	655	21.0	560	22.6	95	14.8
Other substance abuse problem	557	17.9	466	18.8	91	14.2
Interpersonal						
Intimate partner problem	772	24.8	644	26.0	128	19.9
Other relationship problem	234	7.5	184	7.4	50	7.8
Suicide of friend or family in past 5 years	35	1.1	27	1.1	8	1.3
Other death of friend or family	198	6.4	155	6.3	43	6.7
Family stressor(s)	25	0.8	21	0.9	4	0.6
Perpetrator of interpersonal violence past month	119	3.8	115	4.6	4	0.6
-Suicide markers						
Left a suicide note	1,112	35.7	821	33.2	291	45.3
Disclosed intent to commit suicide	784	25.1	627	25.3	157	24.5
History of suicide attempt(s)	630	20.2	405	16.4	225	35.1
-Life stressors						
Crisis during previous two weeks	573	18.4	483	19.5	90	14.0
Physical health problem	625	20.0	494	20.0	131	20.4
Job problem	326	10.5	285	11.5	41	6.4
School problem	37	1.2	28	1.1	9	1.4
Financial problem	325	10.4	278	11.2	47	7.3
Recent criminal legal problem	290	9.3	269	10.9	21	3.3
Other legal problems	95	3.1	77	3.1	18	2.8
Eviction/loss of home	33	1.1	30	1.2	3	0.5

*Total percentages might exceed 100% because one incident might have multiple circumstances.

Highlighted Findings of the Associated Circumstances

There were known circumstances in 93.1% of the suicides. Of these known circumstances;

- 1,530 (49.1%) had a current mental health problem, with only 906 (29.1%) having been currently treated for their mental health problem.
- Close to half (48.1%) had a history of mental health treatment.
- Even though 69% of the females had a current mental health problem, only 48.3% received mental health treatment currently.
- 35.1% of the females had history of suicide attempt(s), compared to 16.4% of the males.

Section 4: Deaths of Undetermined Manner among Maryland Residents, 2003-2009

Highlighted Findings

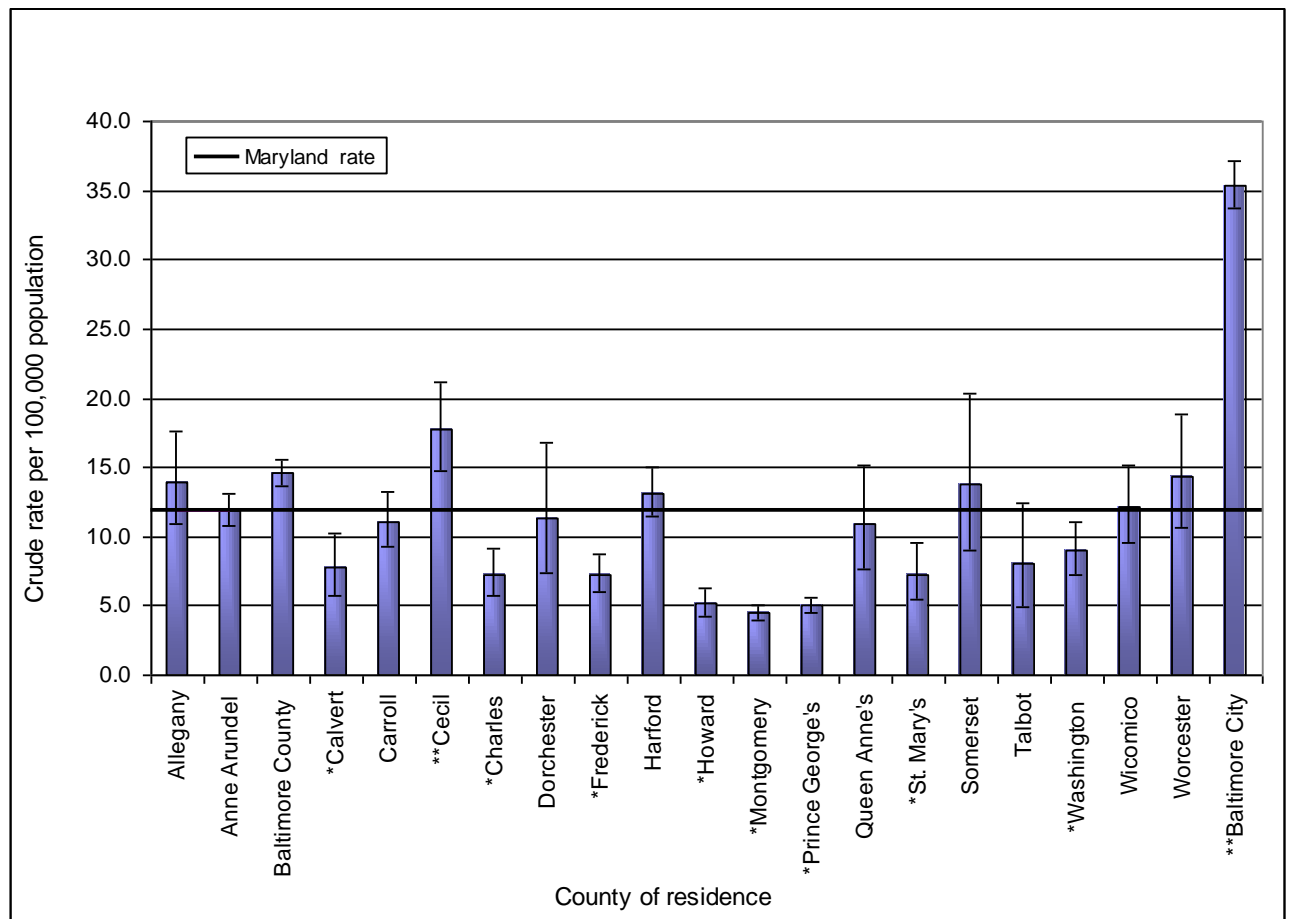
- Between 2003 and 2009, MVDRS reported 4,676 undetermined deaths in Maryland (rate of 11.9 per 100,000). [Table 17]
- The rate of undetermined deaths for males was 2.6 times the rate for females (17.5 and 6.7 per 100,000 population, respectively). [Table 17]
- Age-specific undetermined death rates were highest among those aged 45-54 years (24.5 per 100,000) followed by 35-44 age group (24.3 per 100,000). [Table 17]
- Whites accounted for 65.9% of undetermined deaths, although the rates were slightly higher among blacks (13.4 per 100,000 population) compared to whites (12.2 per 100,000 population). [Table 17]
- Baltimore City residents had the highest rate of undetermined deaths followed by Cecil County residents (35.4 and 17.7 per 100,000 population, respectively). [Table 18]
- 78.9% of all the undetermined deaths occurred in the house, apartment (including a driveway, porch, and yard). [Table 19]
- Of the known methods of undetermined deaths, the most common method was poisoning, 93.1%. [Table 20]

Table 12: Deaths of Undetermined Manner among Maryland Residents (Demographics), 2003-2009

	N	Percent	Population	Rate per 100,000
All Deaths of Undetermined Manner	4,676	100	39,163,782	11.9
Sex				
Male	3,320	71.0	18,942,446	17.5
Female	1,356	29.0	20,221,336	6.7
Age Group (years)				
0-<10	22	0.5	5,148,505	0.4
10-14	7	0.2	2,708,202	*
15-19	98	2.1	2,799,419	3.5
20-24	326	7.0	2,578,196	12.6
25-29	385	8.2	2,541,481	15.2
30-34	391	8.4	2,561,388	15.3
35-44	1,466	31.4	6,024,485	24.3
45-54	1,461	31.2	5,969,718	24.5
55-64	426	9.1	4,240,102	10.1
65-74	60	1.3	2,437,139	2.5
75-84	22	0.5	1,565,353	1.4
>=85	10	0.2	589,794	*
Unknown	2	0.04	---	
Race				
White	3,082	65.9	25,312,601	12.2
Black	1,558	33.3	11,664,418	13.4
Other	35	0.8	2,186,763	1.6
Ethnicity				
Hispanic	51	1.1	2,389,211	2.1
Education				
<=8 years	255	5.5	--	--
9-12 years	3,280	70.2	--	--
13-16 years	846	18.1	--	--
>=17 years	117	2.5	--	--
Unknown	178	3.8	--	--

*Rates are not calculated for counts < 20 because they are considered unstable.

Figure 10: Death Rates of Undetermined Manner among Maryland Residents by County of Residence, 2003-2009



* Counties with undetermined manner death rates statistically significantly lower than the Maryland average.

** Counties with undetermined manner death rates statistically significantly higher than the Maryland average.

I Error bars indicate 95% confidence interval. These indicate the level of uncertainty about each value on the graph. Longer/wider intervals mean more uncertainty.

Rates are not calculated for counts < 20 because they are considered unstable.

Figure 11: Top Five Locations of Deaths of Undetermined Manner among Maryland Residents, 2003-2009

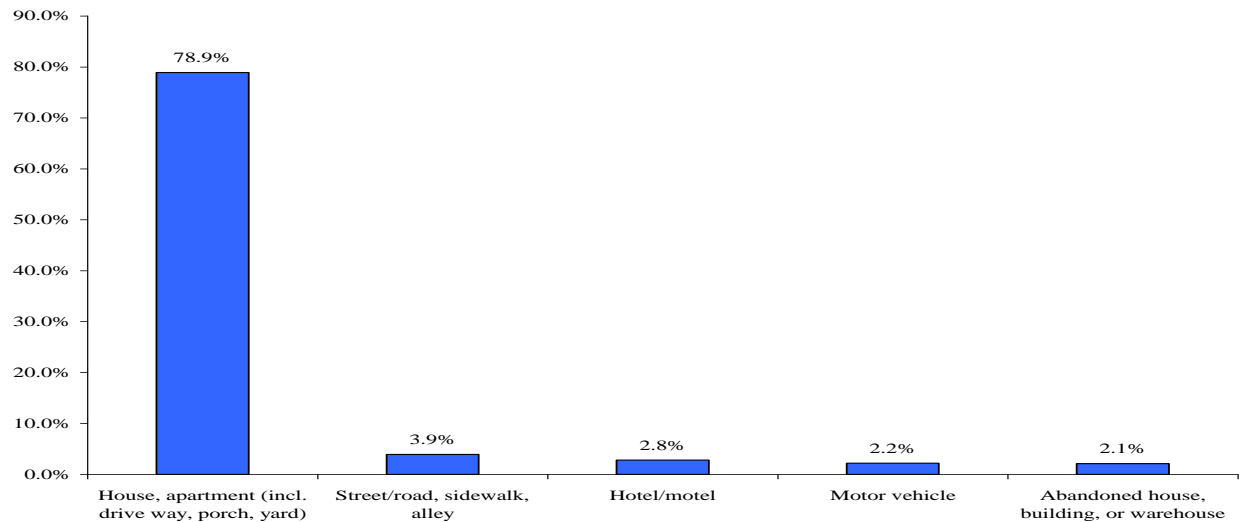


Table 13: Top Five Methods of Deaths of Undetermined Manner among Maryland Residents, 2003-2009

Top 5 Methods of Injury	N	Percent
Poisoning	4,353	93.1
Poisoning and other method type	78	1.7
Fall	35	0.8
Drowning	30	0.6
Motor Vehicle	21	0.5

Figure 12. Distribution of Top Methods of Maryland Deaths of Undetermined Manner, 2003-2009, by Gender

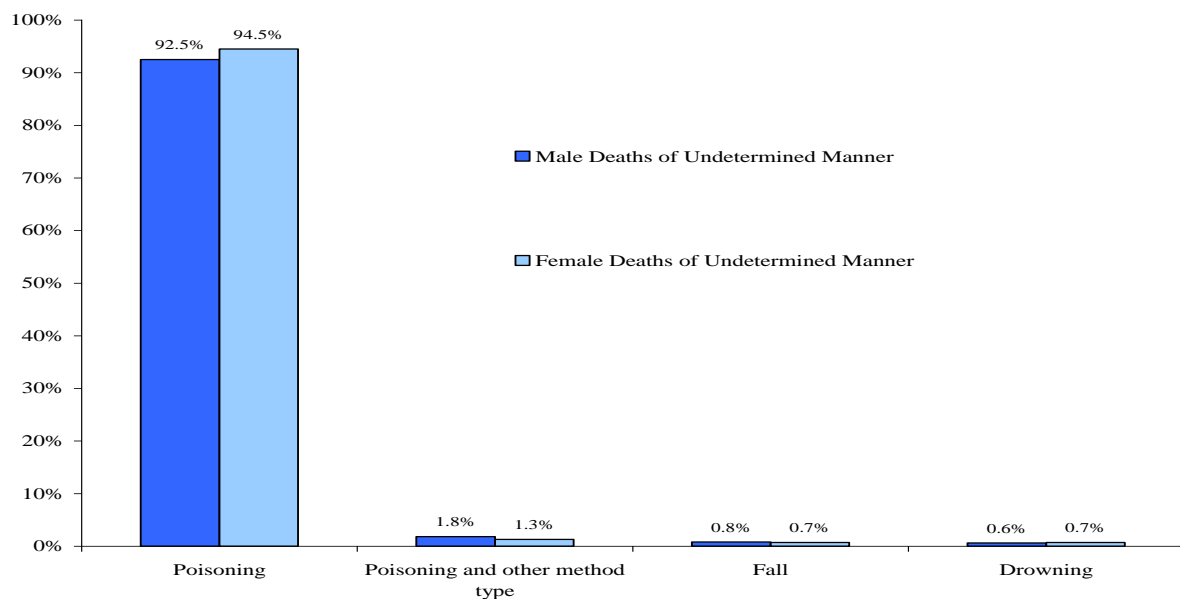


Table 14: Characteristics of Deaths of Undetermined Manner among Maryland Residents, 2003-2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Deaths of Undetermined Manner	4,676	100	3,320	100	1,356	100
EMS at the Scene						
Yes	4,186	89.5	2,972	89.5	1,214	89.5
Homeless						
Yes	143	3.1	124	3.7	19	1.4
Veteran Status						
Yes	467	10.0	444	13.4	23	1.7
Victim in Custody when Injured						
Yes, in jail or prison	37	0.8	34	1.0	3	0.2
Month of Injury						
January	368	7.9	270	8.1	98	7.2
February	365	7.8	256	7.7	109	8.0
March	389	8.3	275	8.3	114	8.4
April	367	7.9	281	8.5	86	6.3
May	409	8.8	286	8.6	123	9.1
June	389	8.3	270	8.1	119	8.8
July	413	8.8	307	9.3	106	7.8
August	408	8.7	288	8.7	120	8.9
September	365	7.8	256	7.7	109	8.0
October	381	8.2	271	8.2	110	8.1
November	392	8.4	275	8.3	117	8.6
December	430	9.2	285	8.6	145	10.7
Weekday of Injury						
Monday	666	14.2	475	14.3	191	14.1
Tuesday	515	11.0	350	10.5	165	12.2
Wednesday	461	9.9	338	10.2	123	9.1
Thursday	540	11.6	367	11.1	173	12.8
Friday	537	11.5	368	11.1	169	12.5
Saturday	612	13.1	443	13.3	169	12.5
Sunday	693	14.8	512	15.4	181	13.4
Unknown	652	13.9	467	14.1	185	13.6
Time of Injury						
Night (18:00 – 5:59)	922	19.7	661	19.9	261	19.3
Daytime (6:00 – 17:59)	1,395	29.8	989	29.8	406	29.9
Unknown	2,359	50.4	1,670	50.3	689	50.8

Table 15: Number and Percent of Undetermined Manner of Death Victims tested for Alcohol and Drugs among Maryland Residents, 2003-2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Deaths of Undetermined Manner	4,676	100	3,320	100	1,356	100
Alcohol Testing						
Tested for Alcohol	4,522	97.3	3,207	97.2	1,315	97.5
Of those tested, positive for Alcohol	1,579	34.9	1,215	37.9	364	27.7
Of those positive for the presence of alcohol, BAC (mg/dL) levels						
>0-<0.08	762	48.4	571	47.1	191	52.6
0.08 - < 0.16	354	22.5	281	23.2	73	20.1
0.16 - < 0.24	232	14.7	180	14.9	52	14.3
>= 0.24	227	14.4	180	14.9	47	13.0
Drug Test Results						
Amphetamine Testing						
Tested for Amphetamines	4,547	97.8	3,230	97.3	1,317	97.6
Of those tested, positive for Amphetamines	73	1.6	57	1.8	16	1.2
Antidepressant Testing						
Tested for Antidepressants	4,553	97.9	3,233	98.0	1,320	97.9
Of those tested, positive for Antidepressants	1,026	22.5	554	17.1	472	35.8
Cocaine Testing						
Tested for Cocaine	4,550	97.9	3,233	98.0	1,317	97.6
Of those tested, positive for Cocaine	1,633	35.9	1,236	38.3	394	29.9
Opiate Testing						
Tested for Opiates	4,553	97.9	3,234	98.0	1,319	97.8
Of those tested, positive for Opiates	3,628	79.7	2,590	80.1	1,038	78.7
Testing for Other Drug(s)						
Tested for other drug(s)	4,556	98.0	3,234	98.0	1,322	98.0
Of those tested, positive for other drug(s)	2,513	55.2	1,669	51.6	844	63.8

Table 16: Associated Circumstances surrounding Deaths of Undetermined Manner among Maryland Residents, 2003-2009

	Total N	Percent	Male N	Percent	Female N	Percent
All Deaths of Undetermined Manner	4,676	100	3,320	100	1,356	100
Unknown	413	8.8	306	9.2	107	7.9
Known*:	4,263	91.2	3,014	90.8	1,249	92.1
-Mental health and substance abuse						
Current depressed mood	202	4.3	126	3.8	76	5.6
Current mental health problem	1,140	26.7	635	21.1	505	40.4
Current mental health treatment	741	17.4	394	13.1	347	27.8
History of mental health treatment	1,136	26.7	635	21.1	501	40.1
Alcohol problem	1,463	34.3	1,102	36.6	361	28.9
Other substance abuse problem	3,512	82.4	2,539	84.2	973	77.9
Interpersonal						
Intimate partner problem	189	4.4	124	4.1	65	5.2
Other relationship problem	61	1.4	36	1.2	25	2.0
Other death of friend or family	66	1.6	29	1.0	37	3.0
-Suicide markers						
Left a suicide note	15	0.4	9	0.3	6	0.5
Disclosed intent to commit suicide	93	2.2	54	1.8	39	3.1
History of suicide attempt(s)	261	6.1	120	4.0	141	11.3
-Life stressors						
Crisis during previous two weeks	209	4.9	143	4.7	66	5.3
Physical health problem	885	20.8	568	18.9	317	25.4
Job problem	61	1.4	53	1.8	8	0.6
Financial problem	42	1.0	23	0.8	19	1.5
Recent criminal legal problem	100	2.4	79	2.6	21	1.7
Other legal problems	37	0.9	23	0.8	14	1.1
Eviction/loss of home	10	0.2	7	0.2	3	0.2

*Total percentages might exceed 100% because one incident might have multiple circumstances.

Highlighted Findings of the Associated Circumstances

There were known circumstances in 91.2% of the undetermined deaths. Of these known circumstances;

- 1,463 (34.3%) had alcohol problems and 3,512 (82.4%) had other substance abuse problems.
- 40.4% of the females had a current mental health problem, compared to 21.1% of the males.
- 885 (20.8%) had some physical health problem.
- 11.3% of the females had history of suicide attempt(s) compared to 4.0% of the males.

Appendix: Centers for Disease Control and Prevention (CDC) Definitions for some Common Precipitating Circumstances

Alcohol problem - Person has alcohol dependence or alcohol problem. Code a victim as “Yes” if the victim was perceived by self or others to have a problem with, or to be addicted to, alcohol. There does not need to be any indication that the alcohol problem directly contributed to the death. A victim who is noted as participating in a alcohol rehabilitation program or treatment — including self-help groups and 12-step programs — should be coded as “Yes” even if the victim was noted as being currently sober. A problem from the past (i.e., five years or more ago) that has resolved and no longer appears to apply should not be coded. Do not code as “Yes” if victim was using alcohol in the hours preceding the incident and there is no evidence of dependence or a problem (these cases should be coded “Yes”).

Crime in progress - The precipitative crime was in progress at the time of the incident. An “in-progress crime” is a serious or felony-related crime, as discussed under “Precipitated by another crime,” that is being committed or attempted at the time of the incident.

Current depressed mood - Code this variable as “Yes” if the victim was perceived by self or others to be depressed at the time of the injury. There does not need to be any indication that the depression directly contributed to the death. Other words that can trigger coding this variable besides “depressed” are sad, despondent, down, blue, low, unhappy, etc. Words that should not trigger coding this variable are agitated, angry, mad, anxious, overwrought, etc. If the victim has a known clinical history of depression, but no depressive symptoms at the time of the incident, this variable should NOT be selected. Depressed mood should not be inferred by the coder based on the circumstances; rather it must be noted in the record.

Current mental health problem - Code a victim as “Yes” if he or she has been identified as currently having a mental health problem. There does not need to be any indication that the mental health condition directly contributed to the death. Mental health problems include those disorders and syndromes listed in the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, Fourth Revision) with the exception of alcohol and other substance dependence (as these are captured in separate variables). Examples of disorders qualifying as mental health problems include not only diagnoses such as major depression, schizophrenia, and generalized anxiety disorder, but developmental disorders (such as mental retardation, autism, attention-deficit hyperactivity disorder), eating disorders, personality disorders, and organic mental disorders such as Alzheimer’s and other dementias. Also indicate “Yes” if it is mentioned in the source document that the victim was being treated for a mental health problem, even if the nature of the problem is unclear (e.g., “was being treated for various psychiatric problems”). It is acceptable to endorse this variable on the basis of past treatment of a mental health problem, unless it is specifically noted that the past problem has been resolved.

Disclosed intent to commit suicide - Victim disclosed to another person the intention to commit Suicide. Code as “Yes” if the victim had previously expressed suicidal feelings to another person, whether explicitly (e.g., “I’m considering killing myself”) or indirectly (e.g., “I know how to put a permanent end to this pain”). Include in the incident narrative any available details about who the intent was disclosed to, how long before the death the intent was disclosed, and what was said during the disclosure.

History of suicide attempt(s) - Victim has a history of attempting suicide. Code as “Yes” if the victim was known to have made previous suicide attempts, regardless of the severity of those attempts or whether any resulted in injury. Evidence of a history of suicide attempts includes self-report and report or documentation from others including family, friends, and health professionals. For purposes of this data element, a suicide “attempt” should include the commission of an act that could lead to a fatal injury. If a person decides not to go through with an act after it has begun or is prevented from carrying out the action, this circumstance should not be endorsed.

Intimate partner problem - Problems with a current or former intimate partner appear to have contributed to the death. Code as “Yes” if at the time of the incident the victim was experiencing problems with a current or former intimate partner, such as a divorce, break-up, argument, jealousy, conflict, or discord, and this appears to have contributed to the death. The specific situation may also call for coding “Jealousy,” “Other argument/abuse/conflict,” “Victim of interpersonal violence in past month,” etc. The burden of caring for an ill spouse or partner should not be coded as an intimate partner problem unless there is also evidence of relationship problems. Phrases such as “victim was having relationship problems” can be assumed to indicate intimate partner problems. If a victim kills or attacks his or her current or former intimate partner, code as “Yes” (this will also call for coding “Intimate partner violence related”). The only exception to this rule is if the death was clearly a consensual act, as in a mercy killing followed by suicide. Extreme caution should be used when identifying a case as a mercy killing; see discussion of the variable Mercy (mercy killing) in Section 8 of the NVDRS Coding Manual version 3 (<http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/Fullmanual.pdf>).

Intimate partner violence related (IPV) - identifies cases in which a death is related to conflict between current or former intimate partners. An intimate partner is defined as a current or former girlfriend/boyfriend, date, or spouse. If other people are also killed (a child, friend of the victim, a bystander), and even if the intimate partner is not (e.g., the child of the intimate partner is the victim), code “Yes” for those victims as well. It will be apparent in the Victim-Suspect Relationship variable whether the victim and suspect were intimate partners. The definition of intimate partner includes first dates.

Jealousy Identifies cases in which jealousy or distress over an intimate partner’s relationship or suspected relationship with another person led to the incident.

Other argument, abuse or conflict An argument or other interpersonal conflict such as abuse, insult, grudge, or personal revenge that precipitated the incident. Excludes arguments over money/property (Argue), intimate partner violence (IPV), and jealousy between intimate partners (Jealous). Cases that appear to involve child abuse, elder abuse, and abuse by a caretaker should be coded “Yes”.

Other substance problem - Person has drug abuse problem. Code a victim as “Yes” if the victim was perceived by self or others to have a problem with, or to be addicted to drugs other than alcohol. There does not need to be any indication that the addiction directly contributed to the death. Code as “Yes” if a victim was noted as using illegal drugs (such as heroin or cocaine), abusing prescription medications (such as pain relievers or Valium), or regularly using inhalants (e.g., sniffing gas).

Precipitated by another crime - The death was precipitated by another serious crime (e.g., drug dealing, robbery). Code a victim as “Yes” if the incident occurred as the result of another serious crime. Note that the crime must occur *prior* to the violent injury, and not after it.